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It is shown that yeasts not only may be carried in the digestive tract of flies (as well as upon the external parts of the body) but that they actually multiply there. The belief is expressed that many yeasts ordinarily pass the winter within the digestive tracts of insects, rather than upon the surfaces of plants or in the soil.

A Plankton Note.—Another illustration of the abundance of certain small animals in the ocean is furnished in a letter from W. A. Herdman published in *Nature*.[3] While crossing the Labrador current at about long. 50° W. in the steamship Parisian the party were served with a copepod stew. The little crustacea were caught by pumping the water into the ship and straining it through silk nets. In this way it was easy to obtain a sufficient number to make a "respectable dish."

MINERALOGY.

New Minerals. Derbylite.—Hussak and Prior[1] give a full description of a new antimono-titanate of iron, of which they had given a preliminary notice.[2] The mineral, named Derbylite in honor of the distinguished geologist of Brazil, O. A. Derby, occurs in the cinnabar-bearing sands of Tripuhay, Minas Geræs, Brazil, and has also been found in place in certain muscovite schists in the near vicinity. Derbylite is orthorhombic, $\breve{a} : \bar{b} : c = 0.96612 : 1 : 0.55025$. Twins on 011. Fracture parallel to 001 but no good cleavage. Crystals minute, color pitch-black, lustre resinous, hardness about 5, specific gravity 4.530. Optical properties undeterminable on account of opacity. Composition probably FeO, $Sb_2O_5 + 5$ FeO, TiO_2 neglecting small amounts of silica, alumina and alkalies.

Zirkelite.—Prior[3] gives a revised analysis of this new mineral[4]

ZrO_2	TiO_2	ThO_2	Ce_2O_3	(Y_2O_3?)	UO_2	FeO	CaO	MgO	Ignition	Sum
52.89	14.95	7.31	2.52	0.21	1.40	7.72	10.79	0.22	1.02	99.03

corresponding to the formula (approximately) RO.2 (Zr Ti Th) O_2.

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[3] Nature, Vol. 59, p. 565, Oct. 14, 1897.

[1] Min. Mag., Vol. XI, No. 52, p. 176.

[2] Min. Mag., Vol. XI, No. 50, p. 85.

[3] Min. Mag., Vol. XI, No 52, p. 180.

[4] First described in Min. Mag., Vol. XI, No. 50, p. 88. See abstract this journal, Vol. XXXI, July, 1897, p. 601.

Wellsite, a new Zeolite.—Pratt and Foote[5] describe a new mineral found in the Buck Creek Corundum Mine, Clay Co., N. C. They name it wellsite in honor of H. L. Wells, Prof. of Chemistry in Sheffield Scientific School. It occurs together with chabazite on albite, rarely also on hornblende and corundum, these minerals constituting a vein in a large mass of dunite near its contact with gneiss. Wellsite is monoclinic, forming doubly-twinned crystals like those of harmotome with pseudotetragonal aspect. Twinning planes are c, 001 and e, 011. Forms observed c, 001 ; a, 001 ; b, 010 ; m, 110 ; $\grave{a} : \breve{b} : c = 0.768 : 1 : 1.245$ $B = 23° 27'$. Cleavage none, lustre vitreous, colorless or white, hardness 4–4.5, specific gravity varying between 2.278 and 2.366 probably depending on differences in the ratio of barium to calcium in different crystals. Double refraction positive and weak. Plane of optic axes at right angles to 010, the obtuse bisectrix inclined 52° to c in the obtuse angle. 2 E probably between 120° and 130°. Chemical composition :

SiO_2	Al_2O_3	BaO	SrO	CaO	MgO	K_2O	Na_2O	H_2O	Sum
43.86	24.96	5.07	.1.15	5.80	0.62	3.40	1.80	13.35	100.01

corresponding to the formula $R\ Al_2Si_3O_{10}.3H_2O$. R contains BaO : CaO : (Na_2O+K_2O) in the ratio of 1 : 3 : 2. It was found that the water appeared to be in three conditions in the molecule, one-third being given off between 100° and 200°, another third between 200° and 300°, and the remaining third only at a red heat. The relations of wellsite to the phillipsite group of the zeolites is shown in the following table :

		à : b̄ : c	β
Wellsite	$RAl_2Si_3O_{10}.3\ HO.$	0.768 : 1 : 1.245	53 27
Phillipsite . . .	$RAl_2Si_4O_{12}.4\frac{1}{2}\ H_2O$	0·70949 : 1 : 1.2563	55 37
Harmotome . .	$RAl_2Si_5O_{14}.5\ H_2O$	0.70315 : 1 : 1.2310	55 10
Stilbite . . . ·	$RAl_2Si_6O_{16}.6\ H_2O$	0.76227 : 1 : 1940	50 49

The authors predict the probable occurrence of a fifth member of the group corresponding to a hydrated anorthite which would have the composition $RAl_2Si_2O_8 \cdot 2\ H_2O$.

Silicate containing lead.—Penfield and Foote[6] describe a new mineral from the Franklin, New Jersey, zinc deposits to which they give the name roeblingite in honor of Mr. W. A. Roebling, the distinguished engineer of Trenton, N. J. Roeblingite occurs at the one thousand foot level of the Parker shaft of the N. J. Zinc Company, on or near the contact between granite and white limestone. There are many minerals in the immediate vicinity especially garnet and axinite, in the cavities of which it is generally is found. It forms dense, white, compact masses consisting of an aggregate of minute prismatic crystals which were doubly refracting but whose crystal system could not be determined. Specific gravity 3.433, hardness a little less than 3. Chemical composition :

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[5] Am. J. Sci., Vol. CLIII, 1897, p. 443.

[6] Am. J. Sci., Vol. CLIII, 1897, p. 413.

SiO_2	SO_2	PbO	MnO	CaO	SrO	K_2O	Na_2O	H_2O	Sum
23.66	9.00	31.03	2.48	25.95	1.40	0.13	0.40	6.36	100.32

corresponding to the complicated formula $H_{10}Ca_7Pb_2Si_5S_2O_{28}$, the small amounts of MnO, SrO and alkalies being united with the calcium. This is equivalent to $5H_2CaSiO_4+2CaPbSO_4$. This adds one to the small list of silicates containing lead and is the first observed occurrence of a sulphite in nature. Pyrognostics: fuses at 3 to a globule, giving blue lead flame and with soda a lead coating; Mn reaction; soluble in weak acids with separation of gelatinous silica.

Bixbyite.—Penfield and Foote[7] describe a new mineral from the topaz locality in the mountains, thirty-five miles southwest of Simpson, Utah. The crystals are implanted upon topaz and altered garnet and rhyolite and are evidently a product of fumarole action.

Bixbyite is isometric, crystallizing in cubes sometimes modified by the icositetrahedron, 112, the crystals being upwards of 5 mm. on the edge. Irregular fracture with traces of octahedral cleavage, color brilliant black with metallic lustre, streak black; hardness 6–6.5, specific gravity 4.945. Fuses at 4 and becomes magnetic; powder dissolves with difficulty in HCl, liberating chlorine. The analysis (by Foote) showed the following composition ;

SiO_2	Al_2O_3	Fe_2O_3	TiO_2	MnO	MgO	O	Sum
1.21	2.53	47.98	1.70	42.05	0.10	4.38	99.95.

The silica and alumina are regarded as due to a small amount of topaz which could not be separated. The composition may then be expressed as R_2O_3 where R is Fe, Mn, and a little Ti. But other considerations, especially its isometric form, point rather to the formula $RO.RO_2$ or $FeO.MnO_2$ with small amounts of MgO and MnO replacing FeO, and TiO_2 replacing MnO_2. It thus corresponds closely to braunite, $MnO.MnO_2$ and to the isometric perofskite, $CaO.TiO_2$. The name is in honor of Mr. Maynard Bixby of Salt Lake City, who first brought the mineral to notice.

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[7] Am. J. Sci., Vol. CLIV, 1897, p. 105.

Associated with the bixbyite are topaz crystals showing combinations of the following forms:

a, 100; c, 001; m, 110; l, 120; d, 201; f. 021; y, 041; o, 221; u, 111.

There are also rough pseudomorph crystals, probably after the manganese garnet, spessartine, now composed of a mixture of bixbyite with either topaz or quartz or both.

Zinkenite Group.—Spencer[8] describes a twin crystal of chalcostibite (wolfsbergite) from Wolfsberg with 102 as twin plane, not before observed. Also (rare) simple crystals of zinkenite from the same place showing the new form 001. He then shows that by a proper orientation of the crystals of these two minerals the similarity in habit, striation, and twinning may be shown and also their place in the isomorphic zinkenite group as follows:

		$\breve{a} : \bar{b} : c$
Zinkenite . .	$PbS:Sb_2S_3$	0.5575 : 1 : 0.6353
Wolfsburgite	$Cu_2S.Sb_2S_5$	0.5312 : 1 : 0.6376
(Chalcostibite, Penfield)		0.5312 : 1 : 0.63955
Sartorite	$Pb\ S.As_2S_3$	0.5389 : 1 : 0.6188
Emplectite	$Cu_2S.Bi_2S_3$	0.5430 : 1 : 0.6256

He states on the ground of crystallographic measurements that probably the mineral guejarite described by Cumenge as having the composition $Cu_2\ S.2Sb_2S_3$ will be found to be identical with chalcostibite. This has been proved by Penfield and Frenzel[9] by a re examination of material from Guejar and a study of new material from Huanchaca, Bolivia, supposed to be guejarite. Measurements of crystals from these two localities gave results entirely agreeing wlth those from typical chalcostibite from Wolfsburg. The chemical constitution of the minerals from the three localities was also shown to be identical, and to satisfy the chalcostibite formula: $Cu_2S.Sb_2S_3$. On the chalcostibite from Huanchaca Penfield observed 20 forms of which 13 were new as follows: 130, 209, 207, 205, 203, 302, 065, 136, 133, 265, 263, 261, 4.12.5. He also shows that the forms observed by Laspeyres, 7.14.8, and 7.21.27, should be 6.12.7, and 134 respectively. In Penfield's paper is further a description by Spencer of a chalcostibite specimen in the British Museum, likewise from Huanchaca, on which were the further new forms: 233, 354, 474, 475, 476.

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[8] Min. Mag., Vol XI, No. 52, p. 188.

[9] An. J. Sci., Vol. CLIV, 1897, p. 27.

The axial ratio adopted is $\breve{a} : \bar{b} : c := 0.5312 : 1 : 0.6395$, and elaborate tables of angles show the thorough agreement of the observations on which is based the identity of guejarite and chalcostibite.

Terrestrial Iron from Missouri.—Allen[10] describes three occurrences of native iron, considered to be of undoubted terrestrial origin, in the Coal Measures of Missouri. In each case the iron was found during the drilling of a well; at Cameron, Clinton Co. the iron formed a mass several inches in thickness in the midst of a solid sandstone, fifty-one feet below the surface; at Weaubleau, Hickory Co. a few pieces of iron were found in a stratum of gray clay, interbedded with sandstone and thin seams of lignite at the depth of thirty-five feet; at Holden, Johnson Co. a mass of iron was struck but not passed through, in a bed of fireclay, underlying an eighteen-inch coal-seam, thirty-seven feet below the surface.

The character of the iron was the same in all the occurrences. It was free from rust, of a lustrous silvery white color, very malleable, hardness 3, specific gravity varying from 7.43 to 7.88. The largest piece obtained weighed 45.4 grams. Some pieces exhibited a layered structure almost amounting to a cleavage. Polished surfaces, etched, showed no Widmanstätten figures. The chemical composition of the iron was nearly the same in the three localities:

	I	II	III
Fe	99.16	99.39	97.10
SiO_2	0.87	0.31	1.65
P	0.207	0.13	0.176
C	0.065	undet'd	undet'd
	99.802	99.83	98.926

The writer appears to consider that these irons represent cases of local reduction, the association with coal or coal-bearing strata being held as significant. It seems worthy of note in this regard that the amount of carbon, both in the irons and in the rocks in which they were situated, was very small.

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[10] Am. J. Sci., Vol. CLIV, 1897, p. 99.